CLAIMS

What is claimed is:

1. A method of interpolation of a color-filtered array, comprising:

(a) interpolating each of a plurality of colors from a color-filtered array;

(b) approximating the portion of a first of said interpolated colors from step (a) which is in a frequency band missing from a second of said interpolated colors from step (a); and

(c) combining the result of step (b) with said second of said interpolated colors.

2. The method of claim 1, wherein:

(a) said color-filtered array has a Bayer pattern; and

(b) said first of said interpolated colors is green.

3. A method of interpolation for a Bayer pattern color-filtered array, comprising the steps of:

(a) providing a Bayer pattern color-filtered array;

(b) interpolating the green subarray of the color-filtered array with a filter having a transfer function approximating

$$H(e^{j\omega},e^{j\xi}) = \begin{cases} 2 & \text{if } |\omega+\xi| \le \pi \\ 0 & \text{otherwise} \end{cases}$$

to yield a green array;

(c) interpolating the red and blue subarrays of the color-filtered array with a filter having a transfer function approximating:

$$H(e^{j\omega},e^{j\xi}) = \begin{cases} 4 & \text{if } |\omega| \text{ and } |\xi| \le \pi/2 \\ 0 & \text{otherwise} \end{cases}$$

to yield a red array and a blue array;

(d) adding the high frequency portion of the green array to the red array and to the blue array to form an adjusted red array and an adjusted blue arrays, whereby the green array, the adjusted red array, and the adjusted blue array together form an interpolated Bayer pattern color-filtered array.

4. A camera, comprising:

(a) a color-filtered array sensor; and

(b) a color-filtered array interpolator coupled to said sensor, said interpolator including (i) a first interpolation filter for a first color, (ii) a second interpolation filter for a second color, and (iii) a third filter approximating the frequency region difference between said first interpolation filter and said second interpolation, said third filter for input said first color and for output coupled to the output of said second interpolation filter.